



Greening digital companies: Monitoring emissions and climate commitments webinar

Summary Report

ITU-WBA webinar: Greening Digital Companies, Monitoring Emissions & Climate Commitments

23 June 2022

Session One:
9:00 - 10:15 CEST/15:00 - 16:15 CST

Session Two:
18:00 - 19:15 CEST/12:00 - 13:15 EDT

The two sessions are to accommodate different time zones.
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Overview:

To mark the launch of the joint [Greening Digital Companies: Monitoring Emissions and Climate Commitments report](#), the International Telecommunication Union (ITU) and the [World Benchmarking Alliance](#) (WBA) organized two online Zoom webinars on 23 June 2022 at 09:00 – 10:15 CEST (session 1) and 18:00 – 19:15 CEST (session 2). The webinars discussed the key findings of the report and featured insights from panellists from Ericsson, Greenpeace East Asia, Sony Group Corporation, Proximus, European Commission, ADEME, UN Environment Programme and Ørsted. Session one was moderated by Ms. Vanessa Gray, Head of Environment and Emergency Telecommunications Division, ITU and session 2 by Ms. Lourdes Montenegro, Benchmark Lead, Digital Inclusion Benchmark, WBA. The webinars were attended by more than 70 participants. A list of speakers, agenda and webinar recordings can be found on the [event webpage](#).

Key takeaways:

- Digital companies play a growing role in the race to eliminate harmful emissions from industry, transport, energy production, and other activities.
- Thirteen of the 150 companies reviewed purchased all electricity from renewable sources. Digital companies accounted for 7 of the top 10 largest corporate purchasers of renewable energy in 2020.
- The purchasing power of digital companies helps scale up renewable energy markets and cut emissions under the Paris Agreement. Some of the companies participate in global initiatives such as the [24/7 Carbon-free Energy Compact](#) which is accelerating the transition to a carbon-free electricity sector.
- Sixteen digital companies are carbon neutral with 14 of those headquartered in Europe or the United States. Unavoidable emissions are being offset through climate-friendly projects, mainly in low- and middle-income countries, which include sustainable cookstoves, rainforest restoration and pay-as-you-go solar. Digital companies are investing over USD 4 billion in carbon removal technologies.
- Digital products and services are making an impact by enabling wider emission reductions, including through video conferencing, building smart metering and transport systems.
- The 150 companies' operational GHG emissions in 2020 accounted for 0.8 per cent of the world total and their electricity consumption for 1.6 per cent of the global total.



World
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- There are noticeable differences among digital companies in their approach to decarbonization. Some are committed to eliminating their entire carbon footprint before 2030 while others, especially some of the biggest emitters, are moving slowly. Just 20 companies account for 75 per cent of the operational emissions, while 9 companies headquartered in East Asia accounted for half of all the emissions of the 150 reviewed.
- East Asian-headquartered companies use relatively little renewable energy, have delayed adopting climate-friendly strategies, and will largely not reach carbon neutrality until after 2050 or around two decades later, on average, than companies headquartered in other regions.
- Low- and middle-income countries frequently face energy challenges, including limited electricity access or unreliable grids, resulting in over-reliance on dirty diesel-powered generator sets. Governments need to create favorable conditions for renewable energy use.
- Constraints in electrical grids mean that despite paying for renewable electricity, it is not always delivered to companies.
- Data gaps were found in the availability and depth of climate data which needs to be narrowed. Some companies do not report scope 3 emissions at all or only report easily calculable categories like business travel. More emissions reporting is needed at the country level and greater guidance is needed on product use and enablement emissions.
- Technical standards such as those developed by [ITU-T SG5](#) provide concrete methodologies and guidance to the ICT sector on how to set science-based targets, achieve net zero emissions, assess energy consumption and GHG emissions.
- Plenty of work lies ahead to ensure digital companies continue to eliminate emissions and reach carbon neutral and net-zero climate targets in a timely manner.

Presentation summaries by agenda item:

Presentation of report findings

Mr. Michael Minges, Research Lead, Digital Inclusion Benchmark, WBA (session 1) and Ms. Rosie McDonald, E-waste Data Associate Officer, ITU (session 2) presented the key findings from the new report. The report is the first to document the emissions and targets from the world's 150 leading tech companies. The 150 companies were assessed by the WBA for its annual [Digital Inclusion Benchmark](#). As part of that assessment, climate data was collected from company ESG reports (more information can be found in the Greening Digital Companies report annexes). The report uses the methodology followed by almost all the companies assessed: the Corporate Accounting and Reporting Standard for the GHG Protocol, where emissions data are broken down into three scopes.

Gaps were found in the availability and depth of climate data, for example, 20 mainly government-owned or privately held companies report no emissions data. Some companies do not report scope 3 at all or only report easily calculable categories like business travel. 86 of the companies were found to have established an emissions reduction target but these varied widely by ambition, scope and measurement. For instance, 38 companies plan to reduce all their operational emissions to achieve carbon neutrality by 2030 while others have targets further out into the future. Some companies have intensity-based targets which make it impossible to forecast absolute reductions and there are cases where the intensity ratio is improving but emissions continue to rise. Not all companies include their entire footprint in their target reductions. The report showed that supply chains account for the largest portion of upstream emissions for some companies. Companies are increasingly working with suppliers to report emissions data, procure renewable energy and adopt targets. 16 companies reported being carbon neutral in 2020 and all but 2 (Infosys and Telstra) are

headquartered in Europe or the United States. Almost all these companies are using voluntary offsets for remaining emissions.

Digital companies are leaders in green energy procurement as well as being innovators in the development of tools and mechanisms to drive and scale renewable energy markets. The ICT sector accounted for about half of global corporate renewable energy procurement in 2020 and 7 digital companies are among the top ten world's largest corporate purchasers of renewable energy. 13 companies were found to pay for 100% renewable energy, but only 4 of them are always receiving it. Google has been a pioneer in trying to solve this problem where it is a founding member of the 24/7 Carbon-Free Energy Compact, an initiative coordinated by the United Nations.

Almost a third of the assessed companies are headquartered in low, lower middle and upper middle economies. The bulk of the emissions in LMIs were found to come from Chinese headquartered companies. Many LMIs face challenges with access to the grid and reliability. As a result, mobile base stations require their own generators, but this is typically diesel. Efforts are being made by some companies to convert these generators to solar and/or connect them to the grid. Unless LMIs open their energy markets, they will find it increasingly difficult to attract foreign investment from major tech companies.

The report also looks at how digital technologies such as IoT sensors, blockchain, AI and robotics are driving emissions reductions within digital company's value chains but also across other sectors. It also highlights how digital technologies play an important enablement role in decarbonization, especially through videoconferencing.

In concluding, it was noted that digital companies and technologies are having a notable impact on reducing emissions in other sectors but standard guidance for measuring this is needed.

Decarbonization also needs to be sped up in the East Asia region as companies headquartered there account for a disproportionate share of emissions and electricity use. Developing countries are lagging in liberalizing their energy markets and there is a need for governments to expand the scope for renewables or they may find difficulty attracting foreign investment. The gap in GHG emissions reporting needs to be narrowed. While some companies excel in complete disclosure of all scopes and 3rd party verification, others are lagging. Agreement is also needed on the terms carbon neutrality, offsets and Net Zero. More granularity is needed for reporting emissions at the country level and disclosure of where supplier scope 3 upstream emissions are coming from. Improved guidance is also needed on product use and enablement emissions to avoid double counting.

Discussion highlights from session 1 and 2

Ms. Pernilla Bergmark, Principal Researcher, ICT Sustainability Impacts, [Ericsson](#) highlighted that there is opportunity to learn and further explore regional differences which were identified in the report. There is also opportunity to address global challenges related to the procurement of low-carbon electricity, as well as improve scope 3 reporting as data is fragmented and can be challenging for many companies. There is a need to act and scale fast which will require a collaborative effort – companies should follow in the footsteps of the front runners by aiming for net-zero and do more to cut emissions by 2030. Ms. Bergmark also highlighted the importance of technical standards developed by ITU-T SG5 which provide concrete guidance for countries, cities, the ICT sector, and other relevant stakeholders to use/deploy ICT safely, minimize their environmental impacts and achieve a sustainable digital transformation. It was noted that ITU is currently working on standardization related to the ICT enablement effect, with a publication expected later in 2022. In terms of the reducing the ICT carbon footprint, key takeaways include going renewable in all parts of

the supply chain, building systems in a smart way and phasing out of old equipment, and the importance of collaboration within and across value chains. Ms. Bergmark also provided an overview of Ericsson's carbon footprint and the company's ambition to be Net Zero by 2030.

Ms. Xueying Katrin Wu, Climate & Energy Campaigner, [Greenpeace East Asia](#) presented an overview of their Race to Green report which scores 30 tech companies in China, Japan and the Republic of Korea on climate action and renewable energy use. Regional climate momentum saw China, Japan and the Republic of Korea setting climate pledges in 2020. Rapid growth of the tech sector has resulted in a sharp increase in electricity consumption, which is expected to continue to rise in the future. Like the ITU-WBA report, a key takeaway is that many companies have set target dates to achieve 100% renewable energy decades in the future, far too late to accelerate East Asia's energy transition. Few companies have pledged to reduce emissions across their entire supply chain. 18 out of 30 ranked companies pledged to achieve carbon neutrality or Net Zero by 2050. Ms. Wu highlighted that the report investigated leadership position of companies and how they were used to advocate for a more renewable energy friendly policy. They found 7 major Japanese tech companies collaborated to petition Japan's government to increase its 2030 renewable energy capacity target to 50%. The report recommends that tech companies should set targets to achieve 100% renewable energy across the supply chain by 2030, and to set ambitious GHG emission reduction targets that include scope 3 and which are not reliant on the use of carbon offsets. There is also a need to choose impactful renewable energy procurement methods such as PPAs and to disclose climate and energy data across the supply chain.

Ms. Keiko Shiga, General Manager of Environment Section, Sustainability Department, [Sony Group Corporation](#) provided an overview of Sony Group's environmental plan 'road to zero' which aims to achieve a zero environmental footprint throughout the lifecycle of their products and business activities by 2050, in line with Science-Based Target Initiatives. Sony Group aims to accelerate the target year for achievement of carbon neutrality, including scope 3, to 2040 and for the achievement of 100% renewable energy to 2030. GHG emissions from Sony Group were mostly from scope 3, especially use of sold products (category 11) followed by capital goods (category 2). Reduction measures will include the following: accelerate energy saving and use of renewable energy across sites; engage supply chain partners to save energy, use renewable energy and select low-carbon or carbon-neutral products and services; continue developing energy-saving products and encourage users to use energy-saving features. Ms. Shiga highlighted the important role of having discussions with governments to address some of the issues related to renewable energy. Most of Sony's manufacturing occurs in East Asia and Japan, therefore, to meet their climate targets, they need to secure stable and ample renewable energy at an affordable price.

Ms. Catherine Bals, Sustainability Department Lead, [Proximus](#) highlighted Proximus' environmental targets to achieve Net Zero emissions by 2040 which are aligned with the SBTi and to be truly circular (zero waste) by 2030. An overview of Proximus' CO₂ footprint in 2021 as presented for scope 1 (6%), scope 2 (0%) and scope 3 (94%) emissions. Scope 3 emissions were the largest which further divided, comes from procurement (79%), customer use of products (17%) and Proximus' operations (4%). Enablement for 2021 from avoided customer emissions was 502 Kilotons using cloud services, smart buildings, video conferencing, smart energy, and smart mobility. Ms. Bals highlighted that going forward, Proximus is taking a 4-pillar approach to achieve net zero carbon emissions which focuses on circularity, energy, enablement, and value chain.

Dr. Ilias Iakovidis, Adviser, Digital Aspect of Green Transition, [DG CONNECT](#), European Commission echoed the challenges of Asia headquartered companies and the gaps in emission data from various scope 3 categories. More needs to be done to address this and greater coordination is needed to

avoid double counting of scope 3 emissions. There is opportunity for the ICT sector to invest in renewable energy so companies can be as clean as possible by enabling a green energy mix. Dr. Iakovidis emphasized the importance of circularity, especially to track and trace materials through Digital Product Passports and to re-use more of existing products. Manufacturing ICT sustainably should be on the agenda for all.

Mr. Christoph Wan-Hörbelt, Head of Renewable Solutions, [Ørsted](#) highlighted that Ørsted's vision is to create a world which runs entirely on green energy. The company is a global leader in offshore wind, and also active in onshore wind, bioenergy and renewable hydrogen and green fuels. The company has a growing global footprint primarily in Europe and the United States, with an increasing presence in East Asia. One of the more challenging areas for many ICT companies to procure renewable energy is due to availability, but also regulatory boundaries. Power Purchase Agreements (PPAs) drive the development of renewable generation whilst providing long term price certainty. Massive upfront investment is needed to make renewable energy projects viable. ICT companies have been leading the way and have a proven track record on revenue certainty, meaning they were able to commit to large renewable purchases. PPAs are expected to remain as a massive lever to create more renewable energy capacity and help to drive down global emissions, plus helping greening the supply of many companies. However, PPAs as they are now are expected to change – in order to make the world run entirely on green energy 24/7, PPAs need to be designed towards more complex renewable energy solutions. Going forward, there will be greater demand to look much more at the renewable energy profile and not just at how much volume was produced in a year. In the future overall production will exceed demand but for specific hours, there will not be enough and this is where initiatives like 24/7 carbon free energy come in to have a perfect match between supply and demand.

Ms. Julia Meyer, Sustainable IT Engineer, [ADEME](#) highlighted how ADEME (the French Environment and Energy Management Agency) supports the implementation of public policies in the fields of environment, energy and sustainable development, helping companies, local authorities and the general public to progress in their environmental approach. Ms. Meyer provided an example of how ADEME helps build common methodologies to assess the environmental impacts of digital technology. A recent ADEME study at the French national level showed that the digital sector represented 2.5% of GHG emissions and approximately 10% of French electricity use. There is a will in France to produce regulations to control such impact and to push towards a more circular economy. ADEME has also developed a methodology standard for the environmental assessment of digital services which informs customers of their carbon impact linked to their data consumption on fixed and mobile French networks. It is not only important to look at GHG emissions but other indicators as well such as the use of minerals and fossil resources. Ms. Meyer also highlighted the importance of working on standards that are common for companies to be able to communicate on the same parameters and hypothesis to evaluate the impact of products and services. In parallel to the methodology, ADME are working with voluntary actors on similar methodologies for data centres and cloud services, which will also consider the use of PPAs.

Mr. David Jensen, Coordinator, [UNEP Digital Transformation Task Force](#) and Co-champion of the [Coalition for Digital Environmental Sustainability \(CODES\)](#), UN Environment Programme highlights that Member States have recently given UNEP the mandate to start looking at digital technologies and environmental sustainability. A new programme (2022 – 2025) is being built which has 3 pillars relating to data that can monitor the planet in real-time; how to use the data to begin shaping behaviors, investments and informing supply chains; and building capacities of governments to harness these tools to accelerate their national development goals and to build national innovation

ecosystems. Mr. Jensen highlighted that a lot of the changes are systemic in nature which is going to require collaboration across all sectors of public, private, civil society, and academia. This is where CODES comes in which is a track within the Secretary General’s digital cooperation roadmap where there are about 1,000 stakeholders in the coalition. The CODES Action Plan for a sustainable planet in the digital age was recently launched at Stockholm+50 which covers three fundamental shifts: i) enable alignment by creating an enabling environment, standards, training and coalitions; ii) mitigating the environmental impact of digital technologies; iii) accelerating innovation and sustainability through the use of digital tools. The Action Plan also proposes nine impact initiatives which are at the global scale and that are aiming for systemic level change that will require multi-stakeholder cooperation.

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The merits and insights of the report

- Massive data collection effort provided at one plate – a daunting task
- Regional differences
- The importance and challenges of procurement of low-carbon electricity
- The challenges around scope 3